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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,073	12/21/2005	Michael Andrew Yuratich	MRKS/0143	4147

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EXAMINER	
LE, DANG D	

ART UNIT	PAPER NUMBER
2834	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,073	YURATICH	
	Examiner	Art Unit	
	Dang D. Le	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 March 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,5,31-35 and 39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,5,31-35 and 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/2/09 have been fully considered but they are not persuasive. The applicant's argument is on the ground that "Allen actually teaches that the spacer 22 used in an electric machine is not integral with the stator 10 of the electrical machine but is rather separated from the stator by an air gap or is in direct contact with the stator 10 (e.g. Figs. 1 and 4 and paragraph [0040]). The spacer 22 cannot, therefore, be considered to be a projection of the stator as recited in amended claim 1." It is noted that the spacer 22 can be said to be integral with the stator because it contacts the windings and the windings contacts that stator teeth. Moreover, claim 1 does not clearly recite the thermal conductive projection projecting directly from the stator core. As a result, the rejection is still deemed proper and repeated hereinafter.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 31, 32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trago et al. (5,929,549) in view of Gayral (3,334,252) and further in view of Allen et al. (2005/0057106).

Regarding claim 1, Trago et al. shows an electric motor having at least three phases (A-C) and comprising a permanent magnet rotor (32) and a stator bearing phase windings in slots in the stator, each phase winding incorporating a plurality of coils (54, 56, 58) each extending through a respective pair of stator slots and surrounding a respective portion of the stator between said stator slots, and adjacent coils of different phases extending through opposite parts of a respective one of the stator slots (Figure 2).

Trago et al. does not show closed stator slots and said adjacent coils being separated by a gap through which cooling fluid may be pumped to cool the coils and a thermally conductive projection, with which the coils are held in thermal contact by virtue of the conforming shape of the slot, extending at least part of the way across the slot.

Gayral shows the closed stator slots (11, Figure 3) and said adjacent coils being separated by a gap (6) through which cooling fluid may be pumped to cool the coils for the purpose of retaining coils in the slots.

Allen et al. shows said adjacent coils being separated by a thermally conductive projection (22), with which the coils are held in thermal contact by virtue of the conforming shape of the slot, extending at least part of the way across the slot for the purpose of reducing heat.

Since Trago et al., Gayral, and Allen et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make closed stator slots with said adjacent coils being separated by a gap through which cooling fluid may be pumped to cool the coils and a thermally conductive projection, with which the coils are held in thermal contact by virtue of the conforming shape of the slot, extending at least part of the way across the slot as respectively taught by Gayral and Allen et al. for the purpose discussed above.

Regarding claim 31, Gayral also shows each slot is shaped to conform substantially to the cross-section of the corresponding coils.

Regarding claim 32, Gayral also shows each of the coils comprising plurality of coil sections fitted together to form a generally rectangular cross-section (Figure 3).

Regarding claim 34, Trago et al. also shows each of the coils being encapsulated within a respective electrically insulating layer (inherently or the windings are short circuited).

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trago et al. in view of Gayral and Allen et al. and further in view of Yamamura et al. (6,914,356).

Regarding claims 4 and 5, the machine of Trago et al. modified by Gayral and Allen et al. includes all of the limitations of the claimed inventions except for the stator incorporating nine windings extending through nine slots and consisting of three windings for each phase and the stator incorporating twelve windings extending through twelve slots and consisting of four windings for each phase.

Yamamura et al. shows the stator incorporating nine windings extending through nine slots and consisting of three windings for each phase and the stator incorporating twelve windings extending through twelve slots and consisting of four windings for each phase for the purpose of balancing the winding voltage.

Since Trago et al., Gayral, Allen et al. and Yamamura et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the stator with nine windings (or 12 windings) extending through nine slots and consisting of three windings (or four windings) for each phase as taught by Yamamura et al. for the purpose discussed above.

6. Claims 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trago et al. in view of Gayral and Allen et al. and further in view of Umeda et al. (5.998.903).

Regarding claim 33, the machine of Trago et al. modified by Gayral and Allen et al. includes all of the limitations of the claimed inventions except for each of the coil sections being encapsulated within a respective electrically insulating layer.

Umeda et al. shows each of the coil sections being encapsulated within a respective electrically insulating layer (Figure 4) for the purpose preventing short-circuiting.

Since Trago et al., Gayral, Allen et al., and Umeda et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to encapsulate each of the coil sections within a respective electrically insulating layer as taught by Umeda et al. for the purpose discussed above.

Regarding claim 35, Umeda et al. also shows the phase windings comprising preformed open ended conductive loops fitted within the stator slots and closed by subsequently applied conductive parts (Figure 3).

7. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trago et al. in view of Gayral and Allen et al. and further in view of Hoover (2233890).

Regarding claim 39, the machine of Trago et al. modified by Gayral and Allen et al. includes all of the limitations of the claimed inventions except for an electric submersible pump.

Hoover shows an electric submersible pump for the purpose of pumping well fluid.

Since Trago et al., Gayral, Allen et al., and Hoover are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use an electric submersible pump as taught by Hoover for the purpose discussed above.

8. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trago et al. in view of Gayral and Yamamura et al. and further in view of Hoover (2233890).

Regarding claim 39, the machine of Trago et al. modified by Gayral, Allen et al. and Yamamura et al. includes all of the limitations of the claimed inventions except for an electric submersible pump.

Hoover shows an electric submersible pump for the purpose of pumping well fluid.

Since Trago et al., Gayral, Allen et al., Yamamura et al., and Hoover are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use an electric submersible pump as taught by Hoover for the purpose discussed above.

9. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trago et al. in view of Gayral and Umeda et al. and further in view of Hoover (2233890).

Regarding claim 39, the machine of Trago et al. modified by Gayral, Allen et al. and Umeda et al. includes all of the limitations of the claimed inventions except for an electric submersible pump.

Hoover shows an electric submersible pump for the purpose of pumping well fluid.

Since Trago et al., Gayral, Allen et al., Umeda et al., and Hoover are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use an electric submersible pump as taught by Hoover for the purpose discussed above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information on How to Contact USPTO

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D. Le whose telephone number is (571) 272-2027. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dang D Le/
Primary Examiner, Art Unit 2834

5/17/09